

Public Service Commission of Wisconsin
Surrebuttal Testimony of Anne Waymouth
Division of Water, Compliance, and Consumer Affairs

Milwaukee Water Works
Docket 3720-WR-108

June 20, 2014

1 Q. Are you the same Anne Waymouth that testified previously as Commission Staff?

2 A. Yes, I am.

3 Q. What is the purpose of this surrebuttal testimony?

4 A. I am going to address Milwaukee Water Works (MWW) Superintendent, Ms. Lewis'
5 statement, "As demonstrated by Ms. Waymouth's calculations on Direct-PSC-Anne
6 Waymouth-18, sufficient cash flow is generated to fund a reasonable water main
7 replacement program." (Rebuttal-MWW-Lewis-7, lines 5-7) I will also address Mr.
8 Brandt's testimony about the limited cash reserves of the utility. (Rebuttal-MWW-
9 Brandt-4, lines 17-23) I will then provide an example of debt financing to help explain
10 how debt financing can improve cash flow. I will also explain how the costs of
11 upcoming main replacements will affect the proposed cost of service allocators, those
12 being either the original cost method or the inch-feet method.

13 Q. Please address the water main replacement program.

14 A. The following is a calculation of the steady annual investment that would be needed
15 based on the service lives for the Pre-World War II vintage and the Post-World War II
16 vintage of mains as provided in the Water Main Replacement Report.

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		<u>Stated Service Life</u>	<u>Final Year</u>	<u>Remaining Years</u>
Pre-World War II	1880 to 1943	125 years	2068	54 years
Post-World War II	1943 to 1963	85 years	2048	34 years

These calculations assume that the identified service lives are correct. Both of these vintages are already being replaced. Indeed, these pipes have already experienced 84 main breaks over just five days when the pressure was increased, as I described in my initial testimony. So, there may be some question as to whether these service lives are realistic. The calculation below uses the percentage of main in each vintage as provided in the Water Main Replacement Report. The percentage in each vintage was multiplied by the 1,961 total miles of main, which includes mains installed after 1963.

	<u>Vintage Percentage</u>	<u>Vintage Miles</u>	<u>Remaining Years</u>	<u>Steady Replacement</u>
Pre-World War II	43%	843	54 years	15.6 miles/year
Post-World War II	22%	431	34 years	<u>12.7 miles/year</u>
Total miles per year				28.3 miles/year

Using the estimate of \$1 million to construct one mile of main, a steady annual investment of \$28.3 million would be needed to replace all of the two vintages by the end of their service lives. This provides a reasonableness check to compare to Ms. Lewis' estimate that 15 miles per year would be sufficient. (Direct-MWW-Lewis-17, lines 5-7)

It can also be compared to my direct testimony where I computed that \$22 million cash flow would be generated based on a 5.38 percent return on rate base. (Direct-PSC-Waymouth-18)

1 Q. If MWW were to cash finance a 28.3 mile per year main replacement rate, what return on
2 rate base would MWW need to request for the foreseeable future?

3 A. It would require a return on rate base of 7.3 percent computed as follows:

4	Required Cash Flow	\$28,300,000
5	Cash Flow at 5.38% Rate of Return	<u>22,000,000</u>
6	Additional Cash Flow Needed	6,300,000
7	Rate Base	\$336,131,000
8	Additional Rate of Return	1.9%
9	Base Rate of Return	<u>5.4%</u>
10	Computed Return on Rate Base	7.3%

11 This would also require that all other capital additions be financed with debt. Ms. Lewis
12 was correct to point out that there are main and non-main portions of the capital budget.
13 Seeing as MWW has more than adequate debt service coverage, this return on rate base is
14 probably more than a private investor would require in this line of business with MWW's
15 capital structure.

16 Q. Do you have further information to help evaluate MWW's potential main replacement
17 rate?

18 A. Yes, I do. I obtained additional information from a data request that I sent to MWW after
19 reading the rebuttal testimony. The record could use better information about the likely
20 main replacement rate that will be needed. The percent of main that has already been
21 replaced can identify where each of these vintages are on their respective survival curves.
22 Survival curves are "S" shaped. The replacement rate moves fairly slowly between new
23 and the first 18 percent replaced. The number of replacements needed each year will

1 peak between 18 percent and 82 percent replaced. Then, the replacement rate would be
2 expected to taper off with the final 18 percent with some main lasting beyond its service
3 life. The numbers of 18 percent and 82 percent are based on the statistical formula that
4 64 percent of a population will fall within two standard deviations of the mean. That also
5 means 36 percent will fall in the tails with 18 percent in each tail. We don't have any
6 information about the steepness of the "S" curve, but this provides some information
7 about the upcoming timing of main replacements. Currently, MWW has replaced
8 18.3 percent of the 1880 to 1943 vintage of main. MWW has replaced 28.3 percent of
9 the 1943 to 1963 vintage of main. This means that main replacements will likely need to
10 accelerate compared to the replacement rate over the last several years.

11 Q. Do you have comments about MWW's limited cash reserves as describe by Mr. Brandt in
12 his rebuttal testimony? (Rebuttal-MWW-Brandt-4, lines 17-23)

13 A. Yes, I reviewed the MWW Annual Report for the year ending December 31, 2013. It
14 showed that MWW had \$9 million in its cash accounts, and it owed \$14 million to the
15 municipality. While in total it is a current deficit, MWW does have cash to operate. But
16 I would agree that MWW cash reserves are limited, which is a concern. MWW needs to
17 be in a position to handle whatever circumstances may come up. With about
18 \$336 million in rate base, unexpected projects could be quite large. It is not a good
19 practice to borrow under emergency circumstances. Further, such limited reserves are
20 likely to be an indicator of an over-reliance on cash financing.

21 Q. Please provide your example of debt financing.

22 A. I have prepared Ex.-PSC-Waymouth-5, which provides an example of debt financing.
23 Potentially, this might help to alleviate some of MWW's aversion to debt financing. This

1 example shows it would only require a rate increase of 13.31 percent to issue
2 \$100 million in debt and invest \$100 million in main replacements. With the assumption
3 that the rate increase would bring MWW up to a 6.25 percent return on rate base, it
4 shows that, in addition to the \$100 million debt proceeds, MWW would also generate
5 \$3.3 million in additional annual cash flow. This additional cash flow could help MWW
6 reach a level of cash flow such that it could cash finance a steady annual investment in
7 mains.

8 The increased investment in rate base will increase the return and depreciation by
9 more than the increased debt service costs, with the assumption of an interest rate of
10 3.5 percent and a 20-year term. Following the issuance of \$100 million in new debt,
11 MWW's total debt would be 27.65 percent of its total capital structure. The format of
12 this exhibit can be used to evaluate the rate impact of any debt issuance that is used for
13 investment in rate base. Further consideration can also be given to the current condition
14 of mains, other factors that contribute to the early deterioration of mains, MWW's long-
15 term funding potential, other projected capital spending, and the competitiveness of
16 MWW's resulting rates. It may not be realistic to add \$100 million in new mains in a
17 single year, but these calculations provide an estimate of the overall impact of such a
18 significant main replacement program.

19 Q. How would the 13.31 percent rate increase be allocated between the retail and wholesale
20 customers?

21 A. That allocation would depend on the methodology used to split Account 343, Mains,
22 between transmission and distribution.

23 Q. Please explain.

1 A. One of the other issues in this case is the method by which Account 343 is divided into
2 transmission and distribution for utility-financed plant. MWW is proposing using the
3 inch-feet method to split those costs, which results in 40.2 percent of the account going to
4 transmission and 59.8 percent going to distribution. Since this money would be used to
5 replace existing main, not add to the system, that split would not change. The
6 \$100 million would be divided according to those percentages, even when all the
7 investment is used to replace distribution mains. Due to how this split filters down
8 through the cost of service study, the result of this method is that wholesale customers
9 would be allocated \$1.37 million of the \$12.75 million rate increase.

10 On the contrary, the wholesale customers are requesting that the Commission
11 adopt the actual cost method to split Account 343. (Direct-Wholesale-Planton-7) This
12 method results in 29.75 percent going to transmission and 70.25 percent to distribution.
13 As the \$100 million goes to replace older distribution mains, the actual distribution cost
14 amount increases, but the actual transmission cost amount stays the same. Assuming
15 retirements of approximately \$2,000,000, once the \$100 million is invested, the split
16 becomes 21.8 percent to transmission and 78.2 percent to distribution. The result of this
17 method is that the entire rate increase is borne by the retail customers.

18 Q. Does that conclude your testimony?

19 A. Yes, it does.

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